

We claim:

1. An improved thread protector for tubular goods having threaded ends, the improved thread protector comprising:

a polymeric body having cylindrical wall portions defining an interior space therewithin and further having a transverse partition disposed intermediate a first end and a second end of the interior space, wherein the cylindrical wall portions of the first end engage and enclose the threaded ends of the tubular goods; and

a weather barrier incorporated in the polymeric body for maintaining a moisture resistant seal between the polymeric body and the tubular goods;

wherein the polymeric body includes a corrosion inhibiting compound impregnated into the polymeric body during molding of the polymeric body.

2. The improved thread protector of claim 1, wherein the polymeric body is formed from a material selected from the group consisting of polyethylene, polypropylene, high density polyethylene, polyurethane, polyvinylchloride, styrene-butadiene copolymers, acrylics and polycarbonates.
3. The improved thread protector of claim 1, wherein the polymeric body forms an end cap wherein an internal sidewall of the cylindrical wall portion of the first end contacts an externally threaded pin end of the tubular goods.
4. The improved thread protector of claim 1, wherein the polymeric body forms a cup shaped member wherein an external sidewall of the cylindrical wall portion of the first end contacts an internally threaded box end of the tubular goods.

5. The improved thread protector of claim 1, wherein the weather barrier comprises:

a weather barrier ring disposed at the first end and around the polymer body for providing a weather resistant seal between the polymer body and a surface of the tubular goods adjacent the threads on the tubular goods away from an end of the tubular goods protected by the improved thread protector; and

an air vent provided in the transverse partition of the polymer body for equalizing air pressure inside the tubular goods with air pressure outside the tubular goods while limiting the passage of moisture therethrough.

6. The improved thread protector of claim 5, wherein the weather barrier ring comprises a resilient ring having one or more wiper blade edges formed circumferentially therearound for contacting the surface of the tubular goods to be sealed.

7. The improved thread protector of claim 6, wherein the wiper blade edges are formed so as to circumferentially contact an outside diameter of the tubular goods.

8. The improved thread protector of claim 6, wherein the wiper blade edges are formed so as to circumferentially contact an inside diameter of the tubular goods.

9. The improved thread protector of claim 6, wherein the air vent admits air flow into or out of the tubular goods.

10. The improved thread protector of claim 1, wherein the corrosion inhibitor has a characteristic flash point and wherein the flash point is selected to be above a mold temperature used to mold the polymeric body.

11. The improved thread protector of claim 1, wherein the polymeric body has incorporated therein from about 1 to 20% corrosion inhibitor by volume, based upon the total volume of the polymeric body.

12. The improved thread protector of claim 1, wherein the corrosion inhibitor is homogeneously dispersed in the polymeric body.

13. In combination with an oil field tubular good having threaded ends:
  - a sealant composition applied to the threaded ends; and
  - a thread protector comprising:
    - a polymeric body having cylindrical wall portions defining an interior space therewithin and further having a transverse partition disposed intermediate a first end and a second end of the interior space, wherein the cylindrical wall portions of the first end engage and enclose the threaded ends of the tubular goods; and
    - a weather barrier incorporated in the polymeric body for maintaining a moisture resistant seal between the polymeric body and the tubular goods;
  - wherein the polymeric body includes a corrosion inhibiting compound impregnated into the polymeric body during molding of the polymeric body.
14. The combination of claim 13, wherein the sealant composition is a liquid solution.
15. The combination of claim 13, wherein the sealant composition is a thread compound or grease.
16. The combination of claim 13, wherein the polymeric body forms an end cap with internal sidewalls which contact an externally threaded pin end of the tubular goods.
17. The combination of claim 13, wherein the polymeric body forms a cup shaped member with external sidewalls which contact an internally threaded box end of the tubular goods.
18. The combination of claim 13, wherein the weather barrier comprises:
  - a weather barrier ring disposed at the first end and around the polymer body for providing a weather resistant seal between the polymer body and a surface of the tubular goods adjacent the threads on the tubular goods away from an end of the tubular goods protected by the improved thread protector; and

an air vent provided in a transverse partition of the polymer body for equalizing air pressure inside the tubular goods with air pressure outside the tubular goods while limiting the passage of moisture therethrough.

19. The combination of claim 18, wherein the weather barrier ring comprises a resilient ring having one or more wiper blade edges formed circumferentially therearound for contacting the surface of the tubular goods to be sealed.
20. The combination of claim 19, wherein the wiper blade edges are formed so as to circumferentially contact an outside diameter of the tubular goods.
21. The combination of claim 19, wherein the wiper blade edges are formed so as to circumferentially contact an inside diameter of the tubular goods.
22. The combination of claim 18, wherein the air vent admits air flow into or out of the tubular goods.
23. The combination of claim 13, wherein the corrosion inhibitor has a characteristic flash point and wherein the flash point is selected to be above a mold temperature used to mold the polymeric body.
24. The combination of claim 13, wherein the polymeric body has incorporated therein from about 1 to 20% corrosion inhibitor by volume, based upon the total volume of the polymeric body.
25. The combination of claim 13, wherein the corrosion inhibitor is homogeneously dispersed in the polymeric body.

26. A method of manufacturing a thread protector for tubular goods having threaded ends, the method comprising the steps of:

molding a polymeric body having cylindrical wall portions defining an interior space therewithin and further having a transverse partition disposed intermediate a first end and a second end of the interior space, wherein the cylindrical wall portions of the first end engage the threaded ends of the tubular goods;

impregnating into the polymeric body a corrosion inhibiting material during molding of the polymeric body; and

providing a weather barrier incorporated in the polymeric body for maintaining a weather resistant seal between the polymeric body and the tubular goods .

27. The method of claim 26, wherein the molding step comprises forming the polymeric body from a material selected from the group consisting of polyethylene, polypropylene, high density polyethylene, polyurethane, polyvinylchloride, styrene-butadiene copolymers, acrylics and polycarbonates.

28. The method of claim 26, wherein the molding step comprises forming the polymeric body by mixing waste polymeric materials, and/or new polymeric materials, in a thermokinetic compounder/mixer at elevated temperatures to form a blended polymeric product, followed by discharging the polymeric product into a suitable mold.

29. The method of claim 26, wherein the impregnating step comprises providing a corrosion inhibitor having a characteristic flash point above a mold temperature used to mold the polymeric body.

30. The method of claim 29, wherein the mold temperature used to mold the polymeric body is in the range from about 300-400°F.

31. The method of claim 26, wherein the impregnating step further comprises incorporating into the polymeric body from about 1 to 20% corrosion inhibitor by volume, based upon the total volume of the polymeric body.

32. A method of recycling used end caps used to protect threaded ends of oil field tubular goods, the method comprising the steps of:

collecting the used end caps at a central location;

shredding and grinding the collected, used end caps to thereby reduce them to particle size;

conveying the shredded and ground particles to a thermokinetic blender;

mixing the particles with a corrosion inhibitor in the thermokinetic blender at elevated temperatures to form a blended polymeric product;

molding the blended polymeric product in a suitable mold to form a molded polymeric body having cylindrical walls;

discharging the molded polymeric body from the mold; and

threading selected portions of the cylindrical walls of the polymeric body, whereby the threaded selected portions of the cylindrical walls are adapted to matingly engage a selected end of the oil field tubular goods.

33. The method of claim 32, wherein the mixing step comprises providing a corrosion inhibitor having a characteristic flash point above a mold temperature used to mold the polymeric body.

34. The method of claim 33, wherein the mold temperature used to mold the polymeric body is in the range from about 300-400°F.

35. The method of claim 32, wherein the step of molding the blended polymeric product comprises the step of forming the polymeric body from a material selected from the group consisting of

polyethylene, polypropylene, high density polyethylene, polyurethane, polyvinylchloride, styrene-butadiene copolymers, acrylics and polycarbonates.

36. The method of claim 32, wherein the molding step further comprises incorporating into the polymeric body from about 1 to 20% corrosion inhibitor by volume, based upon the total volume of the polymeric body.